مركز تجهيز حقول النفط المحدود
Oilfields Supply Center Ltd.

HydraQuaker Accelerator

The HydraQuaker Accelerator is designed to work in tandem with the HydraQuaker double-acting drilling jar to enhance the jarring impact. This combination is especially effective when the HQ drilling jar alone doesn't provide sufficient impact.

FUNCTIONALITY

The primary role of the accelerator is to compensate for the limited stretch in the drill pipe, a common issue in shallow or crooked holes. The accelerator increases the velocity of jar's forces there by amplifying the impact in these conditions. This increase in velocity is achieved through the release of stored energy, which is stored as compressed fluid within the tool during the jar's detent phase and released with the jar's detent release.

Use of an accelerator also optimizes the jars' performance in highly deviated, extended reach, and horizontal wells, where significant drag is typically encountered.

APPLICATIONS

- Horizontal, highly deviated, and extended reach wells with high drag
- Shallow wells with limited drill pipe stretch
- HPHT wells

ADVANTAGES

- Enhances jar performance in shallow, horizontal, deviated, and extended reach wells
- Retains the jar's forces within the Bottom Hole Assembly (BHA)
- Protect the drill string from shock waves that are released as part of jarring
- Recommended in conditions where the jar performance might be compromised

KEY FEATURES

- Constructed on the same HQ chassis for seamless integration.
- Easy conversion from jar to accelerator by changing two major components.
- Fluid compression inside the accelerator ensures the release of stored energy compensating for the lack of drill pipe stretch and hole drag.
- Straight flow paths (full bore design) minimize pressure drops and ensure wireline compatibility.
- Standard temperature seals rated up to 350°F, with optional high-temperature seals rated up to 500°F.
- Use of upper and lower flex joints provides flexibility for passing through high DLS.
- Maintains sealing capability and functionality at any pressure.

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HQ Accelerator Specifications			
Tool OD, in [mm]	4.75 [120.65]	6.5 [165.10]	8 [203.20]
Tool ID, in [mm]	2.25 [57.15]	2.75 [69.85]	3 [76.20]
Tool joint connection	3½ API IF	4½ API IF	6 ⅝ API Reg
Maximum detent working load, lbf [N]	90,000 [400,340]	185,000 [822,921]	300,000 [1,334,466]
Tensile yield strength, lbf [N]	452,737 [2,013,875]	916,152 [4,075,247]	1,302,363 [5,793,199]
Torsional yield strength, lbf.ft [N.m]	19,116 [25,918]	56,395 [76,461]	102,056 [138,369]
Tool weight, lb [kg]	1,950 [885]	2,900 [1,316]	4,220 [1,915]
Tool Length ft [m]	32 [9.75]	33 [10.1]	33 [10.1]